

Water Quality

A N N U A L R E P O R T 2 0 0 1

A copy of this report is available on Fresno City's website. It can be found at www.fresno.gov Just type in keyword: Water Report

**Your Help
Is Needed.
Help Prevent
Low Water
Pressure.**

Portions of Fresno are currently experiencing water shortages at peak usage times. Excess water use combined with recent well closures is causing low pressures. You and your neighbors can help avoid low pressure. It's as easy as 1-2-3.

- 1. Water on your watering day.**
- 2. Water anytime between 7 p.m. and 11 a.m.** except the hours of 6 a.m. thru 8 a.m.
- 3. Set irrigation timers during watering hours**, but not right on the hour (like 1:17 a.m., 2:35 a.m.).

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Daimntawv tshaj tawm no muaj lus tseemceeb txog koj cov dej haus. Tshab txhais nws, los yog tham nrog tej tug neeg uas totaub txog nws.

Chi tiết này thật quan trọng, xin nhờ người dịch cho quý vị.



What's in This Report?

This Annual Water Quality Report, prepared in cooperation with the California Department of Health Services, provides important information about Fresno's water supply, water quality and water delivery system. Test results for Fresno's 2001 Water Quality Monitoring Program

are summarized on pages 3 and 4. Before reviewing this water quality information, it is important to read the messages from the U.S. Environmental Protection Agency (USEPA) and from your City of Fresno Water Division. These are found on pages 2-5.

Fresno Water Division Ranked #1

The Fresno Water Division was recently ranked "best in class" in two different studies. The Reason Public Policy Institute ranked Fresno the most efficient of California water systems. In a separate analysis, Black & Veatch published a recent report comparing water rates of the nation's 50 largest cities. Fresno's rates were the lowest in the nation.

Martin McIntyre, Fresno's Director of Public

Utilities, attributed the recognition to a skilled, dedicated staff and their adoption of competitive work practices that emphasize the customer and good business outcomes. "Given our many challenging and expensive groundwater problems, this acknowledgment is even more noteworthy. I just can't say enough about our great staff," said McIntyre.



2001 Drinking Water Quality in Fresno

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **USEPA's Safe Drinking Water Hotline (1-800-426-4791)**.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections.

These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial

contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the California Department of Health Services (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

Terms and Abbreviations

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

n/a: not applicable
nd: not detectable at testing limit

ng/L: nanograms per liter or parts per trillion.
ug/L: micrograms per liter or parts per billion

mg/L: milligrams per liter or parts per million
pCi/L: picocuries per liter (a measure of radiation)

Table 1 – Primary Standards and Unregulated Contaminants

The following table summarizes water quality sample results from the past year. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old. All samples were taken from 250 wells and/or treatment sites, except lead, copper and microbiological samples, which are also collected from the distribution system. Minimum, maximum and average values are listed for all analyzed constituents with detectable values above the detection limit for reporting. The average values represent hundreds or thousands of analyses, taken from active wells. Any well that violates permissible standards is treated, closed or customers are directly notified. Treatment processes include air stripping, granular activated carbon filtration, sequestering with chemical additives or a combination of these three.

	MCL	PHG (MCLG)	Fresno Average	Range of Detections	MCL Violation	Last Sampled	Typical Source of Contaminant
Volatile Organic Contaminants							
1,1-Dichloroethylene (ug/L)	6	10	0.09	nd - 9.3	NO	2001	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ug/L)	6	(70)	0.25	nd - 7.3	NO	2001	Discharge from industrial chemical factories; major biodegradation byproduct of TCE and PCE groundwater contamination
Monochlorobenzene (ug/L)	70	(100)	0.00	nd - .52	NO	2001	Discharge from industrial and agricultural chemical factories and dry cleaning facilities
Tetrachloroethylene (PCE) (ug/L)	5	0.06	0.20	nd - 4.6	NO	2001	Discharge from factories, drycleaners, and auto shops (metal degreaser)
Toluene (ug/L)	150	150	0.00	nd - .54	NO	2001	Discharge from petroleum and chemical factories; underground gas tank leaks
Trichloroethane (1,1,1-TCA) (ug/L)	200	(200)	0.00	nd - .88	NO	2001	Discharge from metal degreasing sites and other factories; manufacture of food wrappings
Trichloroethylene (TCE) (ug/L)	5	0.8	0.10	nd - 2.6	NO	2001	Discharge from metal degreasing sites and other factories
Trihalomethanes (ug/L)	100	n/a	0.04	nd - 2.8	NO	2001	By product of drinking water chlorination
Xylenes, Total (m,p & o) (mg/L)	1.75	1.8	0.00	nd - 0.5	NO	2001	Discharge from petroleum and chemical factories; fuel solvent
Synthetic Organic Contaminants							
Dibromochloropropane (DBCP) (ng/L)	200	1.7	47	nd - 530	NO	2001	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
Ethylene Dibromide (EDB) (ng/L)	50	(0)	0.1	nd - 50	NO	2001	Discharge from petroleum refineries; underground gas tank leaks; banned nematocide that may still be present in soils due to runoff and leaching from grain and fruit crops
Inorganic Contaminants							
Arsenic (As) (ug/L)	50	n/a	1.830	nd - 11	NO	2000	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (Ba) (ug/L)	1	(2)	0.014	nd - 0.21	NO	2000	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chromium (Total Cr) (ug/L)	50	(100)	0.315	nd - 12	NO	2000	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ug/L)	2000	1000	277	nd - 4800	NO	2001	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel (ug/L)	100	12	0.282	nd - 20	NO	2000	Erosion of natural deposits; discharge from metal factories
Nitrate (NO3) (mg/L)	45	45	21	2 - 73	NO	2001	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite as Nitrogen (mg/L)	1	1	0.002	nd - 0.57	NO	2000	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (Se) (ug/L)	50	(50)	0.008	nd - 2	NO	2000	Erosion of natural deposits; discharge from petroleum, glass and metal refineries; discharge from mines and chemical manufacturers; runoff from livestock lots (feed activities)
Radionuclides							
Gross Alpha	15	n/a	2.78	-1.65 - 25.25	NO	1999	Erosion of natural deposits
Radium 226 (pCi/L)	3	n/a	0.32	-0.82 - 4.1	NO	1999	Erosion of natural deposits
Radium 228 (pCi/L)	2	n/a	-0.26	-0.26	NO	1999	Erosion of natural deposits
Radon (pCi/L)	n/a	n/a	611	1 - 2708	NO	1995	Erosion of natural deposits
Uranium (pCi/L)	20	0.5	2.08	1.86 - 2.29	NO	1996	Erosion of natural deposits
Unregulated Contaminants							
Boron	n/a		57.143	nd - 100	n/a	2001	We are required by regulations to monitor unregulated contaminants while the USEPA and CDHS considers setting limits. Several contaminants indicate detected values with a "<" symbol meaning less than. There are two possible reasons for this. First, the Detection Limit for Reporting (DLR) has not been established by EPA or CDHS. Second, for various reasons, the analytical equipment is unable to quantify the value below the stated "less than" value but analysis indicates the contaminant is present. For either reason, the concentration cannot be quantified and the City must assume that a "Fresno Average" is not applicable for this report.
Hexavalent Chromium	n/a		1.855	nd - 6	n/a	2001	
Vanadium	n/a		20.654	4 - 47	n/a	2001	
Nitrobenzene	n/a		< 10	< 10	n/a	2001	
Dinitrotoluene	n/a		0.004	nd - 0.8	n/a	2001	
Dichlorodifluoromethane (Freon 12)	n/a		1.195	nd - 55	n/a	2001	
DDE	n/a		0.0	nd - < 0.8	n/a	2001	
Methyl tert-Butyl Ether (MTBE)	n/a		0.0	nd - < 5	n/a	2001	
Trichloropropane	n/a		0.012	nd - 0.64	n/a	2001	
EPTC (EPTAM)	n/a		0.0	nd - < 1	n/a	2001	
Perchlorate	n/a		0.0	nd - < 40	n/a	2001	
DCPA Diacid + Monoacid	n/a		0.265	nd - 9.2	n/a	2001	
Chromium	n/a		3.176	nd - 8	n/a	2001	
Bromodichloromethane	n/a		0.005	nd - 1.1	n/a	2001	
Bromoform	n/a		0.032	nd - 2	n/a	2001	
Dibromochloromethane (THM)	n/a		0.003	nd - 0.64	n/a	2001	
Chloroform (Trichloromethane)	n/a		0.014	nd - 1.7	n/a	2001	
Chloromethane (methyl chloride)	n/a		0.009	nd - 2.4	n/a	2001	
Dichloropropane	n/a		0.016	nd - 9	n/a	2001	

Regarding 1,1-Dichloroethylene - A single site, PS 201, confirmed above the MCL after six months of sampling. The well is off line and currently undergoing construction of a GAC treatment system.

Regarding CIS-1,2-Dichloroethylene - A single site, PS 215, is currently undergoing 6 months of averaging. (NOTE: As of April 2002, this well has confirmed over the MCL. It is currently off line.)

Regarding Dibromochloropropane - Two sites, PS 201 and 224, confirmed above the MCL after six months of sampling. Planning and construction are underway. In addition, two GAC treatment sites, PS 274 and 289/2, had effluent results above the MCL - 450 and 370 respectively. Confirmation samples indicated the the high results are more inline with influent concentrations. The City may have collected the sample from the incorrect port.

Regarding Fluoride - At fluoride treatment sites, annual raw water testing is required for background fluoride levels. PS 300 reported a result of 4800 ug/L. Two confirmation samples were collected with results of 100 ug/L each. The indications are there was a problem with the original sample resulting in this single high result. Possible contamination of the sample or other errors caused the high result.

Regarding Nitrate - In December, a high nitrate result of 73 mg/L was reported from the effluent at PS 297, a GAC treatment site. The City immediately collected confirmation samples and ordered a re-analysis of the original sample. The confirmation samples and well influent samples indicate the well site is in compliance with drinking water standards for nitrate but re-analysis of the original sample confirmed the high level. The well was taken off line at the direction of CDHS. In February 2002, the City and CDHS conducted extensive nitrate sampling and are currently evaluating the data. It is possible the original sample may have been contaminated. In addition, one other well, PS 274 was lost to high nitrates and two more, PS 40 and 185, are currently off line while plans for treatment or modification are in design.

The following tables list all the drinking water contaminants that we detected or tested for during the 2001 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 – December 31, 2001. The State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data contained in this report, though representative of the water quality, is more than one year old.

Table 2 – Microbiological Contaminants

Over 240 bacteriological samples are collected every month in Fresno's distribution system.

In addition, over 300 bacteriological samples are collected from wells and treatment sites.

Contaminant	Highest No. of Detections	No. of Months In Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	2 of 308 or 0.99%	0	5%	0	Naturally present in the environment

Table 3 – Lead and Copper

Lead and Copper samples are collected from wells, the distribution system and from inside residences.

Contaminant	No. of Samples Collected	90th Percentile Level Detected	No. of Sites Exceeding Action Levels	Action Level	MCLG	Typical Source of Contaminant
Lead (ug/L) (Sampled in 1999)	50	2.5	1	15	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ug/L) (Sampled in 1999)	50	0.27	0	1.3	0.17	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Table 4 – Secondary Standards Contaminants List

Secondary standards are based on aesthetic factors (taste, appearance and odor, etc.) and are not health-related.

Name	MCL	Fresno Average	Range of Detections	MCL Violation	Last Sampled
Aluminum (Al) (ug/L)	200	0.2	nd - 50	No	2000
Apparent Color (Unfiltered)	15	1	nd - 15	No	2000
Chloride (Cl) (mg/L)	500	10	2 - 40	No	2000
Iron (Fe) (ug/L)	300	16	nd - 720	Yes *	2000
Manganese (Mn) (ug/L)	50	2.33	nd - 170	Yes **	2000
Odor (Threshold @ 60 C) (Units)	3	1.01	1 - 3	No	2000
Sodium (Na) (mg/L)	n/a	19.85	5 - 49	No	2000
Specific Conductance (E.C.) (umho/cm+)	1600	328	90 - 780	No	2000
Sulfate (SO4) (mg/L)	500	10.46	2 - 60	No	2000
Total Dissolved Solids (TDS) (mg/L)	1000	211.69	28 - 510	No	2000
Total Hardness (as CaCO3) (mg/L)	n/a	125.61	29 - 440	No	2000
Turbidity (Lab) (units)	5	0.14	nd - 2.2	No	2000
Zinc (Zn) (ug/L)	5000	10.88	nd - 2000	No	2000

* Three wells exceeded the aesthetic standard for iron.

** Four wells exceeded the aesthetic standard for manganese.

Table 5 – Contaminants Not Found In Fresno Water

No detections of these compounds occurred in 2001.

2,4,5-TP (Silvex)	Disulfoton
2,4-D	Diuron (Karmex)
2-Chloroethylvinyl Ether	Endothall
Acenaphthylene	Endrin
Acetone	Epoxide
Acrolein	Ethyl tert-Butyl Ether (ETBE)
Aldicarb (Sulfone)	Ethylbenzene
Aldicarb (Sulfoxide)	Flourene
Aldicarb (Temik)	Glyphosate
Aldrin	Heptachlor
Anthracene	Heptachlor Epoxide
Antimony	Hexachlorobenzene
Arochlor - 1016	Hexachlorobutadiene
Atrazine (Aatrex)	Hexachlorocyclopentadiene
Banvel (Dicamba)	Hexachloroethane
Bentazon (Basagran)	Hydrocarbon Oil and Grease
Benzene	Hydroxide (OH)
Benzo (B) Flouranthene	Hydroxycarbofuran
Benzo (a) Anthracene	Isophorone
Benzo (a) pyrene	Isopropylbenzene (Cumene)
Benzo (K) Flouranthene	Isopropyltoluene
Benzyl Butyl Phthalate	Lindane (Gamma-BHC)
Beryllium	Mercury (Hg)
Bromacil (Hyvar)	Methomyl
Bromobenzene	Methoxychlor
Bromochloromethane	Methyl Ethyl Ketone (MEK, Butanone)
Bromomethane	Methyl Isobutyl Ketone
Butachlor	Molinate (Ordram)
Carbaryl	N-Butylbenzene
Carbofuran (Furadan)	Nitrate Nitrogen
Carbon Disulfide	Nitrite (NO2)
Carbon Tetrachloride	N-Propylbenzene
Chlordane	Oxamyl (Vydate)
Chloroethyl (ether)	Pentachloroethane
Chloroethylvinyl ether	Pentachlorophenol (PCP)
Chlorothalonil (Daconil, Bravo)	Perylene
Chlorotoluene	Phenanthrene
Chrysene	Picloram
Cyanide	Polychlorinated Biphenyl's (PCBs)
Dalapon (Dowpon)	Prometon
Demeton	Prometryn (Caparol)
Diazinon	Propachlor
Dibenzo (a,h) Anthracene	Pyrene
Dibromomethane (Methylene Bromide)	Pyrene (1,2,3-cd)
Dichlorobenzene (m-DCB)	Sec-Butylbenzene
Dichlorobenzene (o-DCB)	Silver (Ag)
Dichlorobenzene (p-DCB)	Simazine (Princep)
Dichloroethane (1,1-DCA)	Styrene (Vinyl Benzene)
Dichloroethane (1,2-DCA)	Tert-amyl-Methyl Ether (TAME)
Dichloroethylene (Trans 1,2-DCE)	Tert-Butylbenzene
Dichloropropane (1,3-)	Tetrachloroethane
Dichloropropene	Thallium
Dichloropropene (1,1-)	Thiobencarb (Bolero)
Dichloropropene (1,3-) (Total)	Total Oil and Grease
Dichloropropene (cis 1,3-)	Toxaphene
Dichloropropene (Trans 1,3-)	TP (Silvex)
Dieldrin	Trichlorobenzene (1,2,3-)
Diethylhexyladipate	Trichlorobenzene (1,2,4-)
Diethylhexylphthalate (DEHP)	Trichloroethane (1,1,2-TCA)
Diethylphthalate	Trichlorofluoromethane (Freon 11)
Dimethoate (Cygon)	Trifluralin
Dimethylphthalate	Trimethylbenzene (1,2,4-)
Di-n-Butylphthalate	Trimethylbenzene (1,3,5-)
Dinoseb	Vinyl Chloride
Diquat	

Information from the EPA About Possible Contaminants

Radon: Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will, in most cases, be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer.

levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness. Symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should ask advice from your health care provider.

Arsenic: Some people who drink water containing arsenic in excess of the MCL over many years could experience skin

does not pose a risk to public health, the State allows the affected community to decide whether or not to treat to remove it.

DBCP: An agricultural chemical used to control nematodes in soil, DBCP use was prohibited in 1977. It was discovered in some groundwater wells in the San Joaquin Valley and other locations in California. The State of California and the USEPA established an MCL at 0.2 parts per billion in 1989, leading to the closure of many wells. An even lower "Recommended Public Health Level" (RPHL) was proposed at 0.002 parts per billion in the early 1990s, but was never formally adopted.



Leaky Acres is the foundation for one of the largest artificial recharge programs in the nation.

Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your State radon program or call **USEPA's Radon Hotline (800-SOS-RADON)**.

Nitrate: Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate

damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Iron and Manganese: Iron was found at levels that exceed the secondary MCL of 300 ug/L and manganese was found at levels that exceed the secondary MCL of 50 ug/L. These MCLs were set to protect you against unpleasant aesthetic affects such as color, taste, odor and the staining of plumbing fixtures (e.g., tubs and sinks), and clothing while washing. The high iron and manganese levels are due to leaching of natural deposits. Since violating this MCL

As a part of the routine review of MCLs conducted by the State of California, the Department of Health Services reviewed the MCL for DBCP in 1999. Their review confirmed that the current MCL of 0.2 parts per billion is appropriate and protective of public health. This action signals that there has been no new evidence indicating the MCL should be changed. The California Environmental Protection Agency, in an independent action, established a "Public Health Goal" for DBCP in 1999. This level was set at 0.0017 parts per billion, equivalent to the proposed RPHL of 0.002 parts per billion.

Efforts Continue to Assure a Stable Water Supply for Fresno

The City of Fresno Water Division continues its efforts to deliver a high quality, reliable supply of water to you. This stable supply is essential to the economic well being of our community, and creating and retaining jobs for our residents. Division staff has focused their efforts on identifying innovative technologies and solutions that will efficiently meet the water delivery needs of both current and future residents.

California has limited water supplies. Statewide competition for these dwindling supplies, coupled with Fresno's increasingly high water use patterns, challenge the effort to continue to assure a stable supply of water.

River Water Contract Important to Future Supply

Negotiations for renewal of Fresno's Central Valley Project Class I contract for 60,000 acre feet per year of San Joaquin River water is currently underway. This reliable supply is a critical element of the economic engine that Fresno depends upon for growth and vitality. Citywide metering of all customers is a condition of renewal. While commercial, industrial and multi-family residents are metered, the City Charter currently prohibits billing single-family residents a metered rate.

Water for Fresno: Balancing Our Supply

Fresno's high water use, combined with increasing competition for California's dwindling supplies, combine to create immediate challenges for assuring a stable water supply.



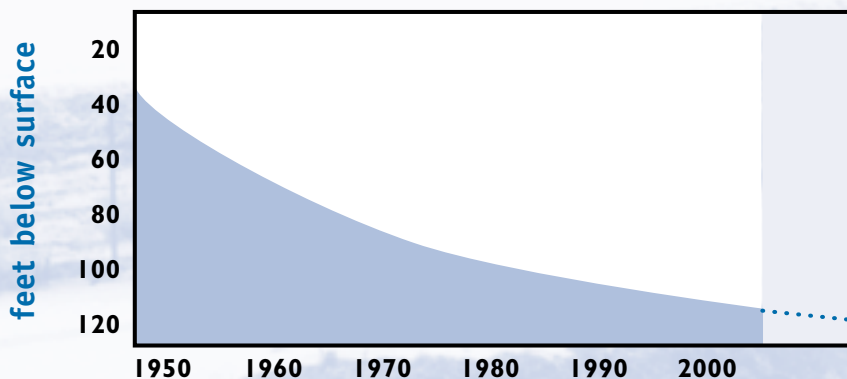
Fresno's Class I CVP contract is essential to a stable water supply.

The City pumps 140,000,000 gallons per day on average to Fresno homes and businesses from 250 wells. While this water is drawn from a groundwater aquifer underneath our City, most of it actually comes from the Kings and San Joaquin River watersheds. Snow and rain that fall in the Sierra Nevada flow into these river systems. Some of the water from these watersheds is put back into the aquifer to replace the groundwater we take out.

Declining Water Table

Groundwater levels in Fresno drop as water use rises. Without the surface water from local rivers and artificial recharge, our groundwater supply would disappear. Even with these efforts, the chart below illustrates how the groundwater table has dropped 70 feet since 1945.

Fresno's Declining Water Table



Each Piece of Fresno's Water Puzzle Is Essential to a Reliable Water Supply

We cannot continue to take out more water than we return to our aquifer. If more water is withdrawn from Fresno's water budget than deposited, groundwater overdraft occurs. How is water deposited into the aquifer? Where do these water deposits come from?

In the past, the traditional way of closing the gap between supply and demand has been to increase supplies – by building new facilities such as dams or by tapping underground aquifers. New facilities are costly and such projects require strict environmental review before approval. Groundwater resources, while abundant in some regions, have been over drafted in others and take time to replenish.

Deep Percolation from Crop Watering

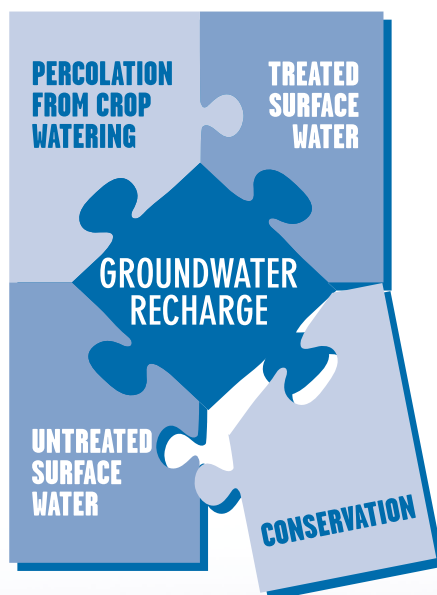
Flood irrigation of surface water applied to surrounding farmlands is a vital source of groundwater recharge. This irrigation water soaks into the aquifer and is pumped out when surface water is not available.

Groundwater Recharge

Surface water is used to replace lost groundwater levels through the City's artificial recharge program.

Untreated Surface Water

Intentional recharge: Over 60,000 acre feet per year of Kings and San Joaquin River water is delivered through Fresno Irrigation District canals to ponding basins across the City to replace the water delivered to, and used by, customers. A



focused recharge program occurs at City-owned Leaky Acres, located near Fresno Yosemite Airport. Equally important, the Fresno Metropolitan Flood Control District plays a key role in this effort by implementing intentional recharge at flood control basins located throughout the urban area.

Incidental recharge: Surface water flows through canals, creeks and other waterways where some of it naturally percolates through the soil and into our aquifer.

Treated Surface Water

Direct use of treated surface water reduces the need to pump from the aquifer. Fresno's new surface water treatment facility, when completed in 2004, will produce up to 30 million gallons of drinking water each day to meet customer demand.

Conservation

The missing piece of Fresno's Water Budget puzzle is conservation.

Fresno's High Water Use and Its Impact on Our Water Budget

All of these elements need to be in place to have a balanced water supply, and conservation is the missing piece from our concentrated effort to assure a stable supply. Fresno per capita water use increased over the past year and now ranks *the highest in the state among California's ten largest cities*. Newly released figures from the Department of Public Utilities indicate average daily water use at 332 gallons per person. We must work together to conserve more water. Practicing water conservation and supporting public policies that promote wise and prudent water use are essential to our current and future water supply.

Water Conservation Is Essential

Conservation is a key tool to manage water shortages. Conservation helps reduce the need to use groundwater, may defer the need for some new supply or storage facilities and can help make surface water available to protect fish and wildlife habitat.

Fresno & Clovis 2001 Average Daily Per Capita Water Use

Clovis 241 gpd	Fresno 332 gpd
Gallons Per Day (gpd)	

The need to support public policies that promote wise and prudent water use is clear when comparing Fresno water use to Clovis.

NOTE: In Fresno, commercial, industrial and multi-family customers are metered. The City charter prohibits billing single family residential customers a metered rate.

Tell Us What You Think!

Information you can use from the
Fresno Department of Public Utilities.

We want to serve you better.

Mail or email suggestions to:

City of Fresno Water Division

1910 E. University Ave.

Fresno, CA 93703-2988

email: nora.laikam@ci.fresno.ca.us

City of Fresno Website

www.fresno.gov

Questions?

WATER QUALITY

498-4136

WATER CONSERVATION

498-1016

Need a speaker for your
school, community group
or service club about

WATER ISSUES?

498-4674

WATER DIVISION

498-1458

A translation of this report
in Spanish and Hmong can be
requested by calling

498-4136

Facts About Drinking Water Standards

Under the 1974 Safe Drinking Water Act, the United States Environmental Protection Agency and the California Department of Health Services were charged with the responsibility of setting and implementing safe drinking water standards. Congress reauthorized this act in 1996. One hundred compounds are now regulated; another 48 are subject to monitoring. Fortunately, only a small number of these compounds have ever been detected in Fresno's water supply.

Is Fresno's water quality monitoring reliable?

Yes! The City of Fresno's Water Division has an extensive, ongoing water quality monitoring program. In 2001 alone, the Water Division spent about \$350,000 for the analysis of water samples by independent laboratories. It is the intention of the City to detect potential contaminants before any health impacts occur.

What happens in Fresno if a well exceeds EPA or DHS standards?

If a well violates standards, it is removed from service and an alternate water supply is provided. In the event a well exceeds standards but must stay in service, customers who receive water from that well would be directly notified by mail or by hand-delivered flyers.

Does the presence of contaminants indicate a health risk?

Not necessarily. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **USEPA's Safe Drinking Water Hotline (1-800-426-4791)**.

May some people be more vulnerable to health risks than others?

Yes! Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).



**DEPARTMENT OF PUBLIC UTILITIES
WATER DIVISION**

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